

AMENDMENTS TO THE CLAIMS

Claim 1 (currently amended): A method of transducing the conformational change of a signaling aptamer that occurs upon the signaling aptamer binding a ligand to a detectable increase in a fluorescence intensity signal or in a colorimetric intensity signal generated by a reporter molecule that is appended coupled to the signaling aptamer prior to binding the ligand comprising the steps of:

covalently coupling the reporter molecule to an aptamer to form the signaling aptamer, wherein the reporter molecule replaces a nucleic acid residue within the aptamer or is inserted between two nucleic acid residues within the aptamer such that the placement does not interfere with the ligand-binding site of the aptamer;

placing the signaling aptamer in solution;

contacting the signaling aptamer in solution with the ligand under conditions whereby the signaling aptamer binds the ligand; and

detecting the increase in the fluorescence intensity signal or in the colorimetric intensity signal generated by the reporter

molecule transduced by the conformational change in the signaling aptamer upon binding the ligand.

Claims 2-5 (canceled).

Claim 6 (previously presented): The method of claim 1, wherein the covalent coupling of the reporter molecule to the aptamer occurs during chemical synthesis, during transcription or post-transcriptionally.

Claim 7 (previously presented): The method of claim 1, wherein the reporter molecule is a dye.

Claim 8 (original): The method of claim 7, wherein the dye is a fluorescent dye.

Claim 9 (original): The method of claim 8, wherein the fluorescent dye is acridine or fluorescein.

Claim 10 (previously presented): The method of claim 1, wherein the aptamer is selected from the group consisting of RNA, DNA, modified RNA and modified DNA..

Claim 11(original): The method of claim 1, wherein the ligand is a molecule bound by the signaling aptamer wherein the molecule is not a nucleic acid sequence.

Claim 12 (original): The method of claim 1, wherein the ligand is in solution.

Claims 13-14 (canceled).

Claim 15 (currently amended): A method of transducing the conformational change of a signaling aptamer, that occurs upon the signaling aptamer binding a ligand to a detectable increase in fluorescence intensity or in colorimetric intensity generated by a fluorescent dye that is appended coupled to the signaling aptamer prior to binding the ligand comprising the steps:

covalently coupling the fluorescent dye to an aptamer to form the signaling aptamer, wherein the fluorescent dye replaces a

nucleic acid residue within the aptamer or is inserted between two nucleic acid residues within the aptamer such that the placement does not interfere with the ligand-binding site of the aptamer;

placing the signaling aptamer in solution;

contacting the signaling aptamer in solution with the ligand under conditions whereby the signaling aptamer binds the ligand; and

detecting the increase in fluorescence intensity or in colorimetric intensity generated by the fluorescent dye transduced by the conformational change in the signaling aptamer upon binding the ligand.

Claims 16-18 (canceled).

Claim 19 (previously presented): The method of claim 15, wherein the fluorescent dye is fluorescein or acridine.

Claim 20 (previously presented): The method of claim 15, wherein the aptamer is an anti-adenosine RNA aptamer or an anti-adenosine DNA aptamer.

Claim 21 (original): The method of claim 20, wherein the anti-adenosine RNA aptamer is ATP-R-Ac13.

Claim 22 (original): The method of claim 20, wherein the anti-adenosine DNA aptamer is DFL7-8.

Claim 23 (original): The method of claim 15, wherein the ligand is a molecule bound by the signaling aptamer wherein the molecule is not a nucleic acid sequence.

Claim 24 (original): The method of claim 23, wherein the ligand is adenosine.

Claim 25 (original): The method of claim 15, wherein the ligand is in solution.

Claims 26-27 (canceled).

Claim 28 (previously presented): The method of claim 15, wherein the ligand is quantitated by the step comprising:

correlating the increase in fluorescence intensity or in colorimetric intensity optical signal generated upon the signaling aptamer binding the ligand with the quantity of ligand bound to the signaling aptamer.